

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for heat exchange, ~~in particular for use in motor vehicles and especially~~ for use in motor vehicle air conditioning systems which, as refrigerant, include a fluid with carbon dioxide (CO₂) as at least one constituent, having the apparatus comprising:

at least one feed line and discharge line, which open out into a distribution or collection space, respectively, for a fluid, and

at least one through-flow device, having the through-flow device comprising:

at least one first end-side flow connection section, through which the fluid enters the through-flow device or leaves the through-flow device,

at least one second end-side flow connection section, through which the fluid leaves the through-flow device or enters the through-flow device, and

wherein the first flow connection section is flow-connected to the second flow connection section by at least one tube section,

~~characterized in that~~ wherein at least one of the flow connection sections is twisted at least once,

wherein the first or second flow connection section is flow-connected to the collection space,

wherein the second or first flow connection section is flow-connected to the distribution space,

wherein at least one space section of the distribution space is flow-connected to at least one space section of the collection space by at least one connection device,

wherein a separating device is arranged in such a manner that medium flows firstly through a first section, remote from the air flowing through, then through a section facing the air flowing through, then back through a section remote from the air flowing through and finally back through a section facing the air flowing through, and

wherein there is at least one separating device dividing the collection space and/or the distribution space into at least two space sections in a gas-tight and fluid-tight manner and the

at least one separating device comprises two separating walls with one of the separating walls being arranged at a right angle and with an opening.

2. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the tube section has at least one straight section.

3. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the tube section has at least one curved section.

4. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the tube section has at least one twisted section.

5. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the tube section has at least two curved sections with different radii of curvature.

6. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the number of first and/or second flow connection sections is equal to the number of tube sections.

7. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the through-flow device has at least one flow passage, preferably a plurality of flow passages for passing on the refrigerant, and preferably has a cross section in the form of a flat tube.

8. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the through-flow device is made at least from a material selected from a group of materials consisting of metals, in particular aluminum, manganese, silicon, magnesium, iron, brass, copper, tin, zinc, titanium,

chromium, molybdenum, vanadium, and alloys such as EN-AW 3003, EN-AW 3102, EN-AW 6060, EN-AW 1110 thereof, plastics, fiber-reinforced plastics, composite materials.

9. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein at least the first and/or second flow connection section is twisted over a predetermined angle.

10. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the magnitude of the twisting angle is between 10° and 180°, ~~preferably between 45° and 135°, and particularly preferably between 80° and 100°.~~

11. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in ~~claims~~ Claim 1, ~~characterized in that~~ wherein the two transition sections are twisted in the same twisting direction.

12. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the two transition sections are twisted in opposite twisting directions.

13. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the tube section is multiply twisted.

14. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the tube section is twisted at least twice in the same twisting direction.

15. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the tube section is twisted at least twice in different twisting directions.

16. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the twisting angles of at least two twists of the tube section are substantially equal or equal in opposite directions.

17. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the curved section and/or the twisted section of the tube section is connected to a supporting element.

18. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein a plurality of distribution/collection spaces which are thermally separated from one another are provided.

19. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the thermal separation is effected by a plurality of distribution/collection spaces being spaced apart from one another.

20. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein thermal separation is effected by providing a material which promotes thermal separation between the distribution/collection spaces.

21. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the distribution/collection space has receiving devices, the internal cross section of the receiving devices substantially corresponding to the external cross section of the through-flow device.

22. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the receiving devices are substantially rectangular in form, and the longer side of these receiving devices is arranged at a predetermined angle with respect to the longitudinal direction of the distribution/collection device.

23. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1 ~~characterized in that~~ wherein the magnitude of the angle is between 0° and 90°, ~~preferably between 0° and 45°, and particularly preferably between 0° and 10°.~~

24. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein a plurality of through-flow devices are arranged substantially parallel to one another.

25. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein cooling fins are provided between the through-flow devices.

26. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the tube sections of the through-flow devices and the supporting element are at least partially connected to one another positively, cohesively and/or non-positively.

27. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein frame devices are provided and are at least partially connected positively, non-positively and/or cohesively to the supporting element and/or the collection/distribution space.

28. (Cancelled)

29. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein two distribution and/or collection spaces are provided at least one separating device is provided, dividing at least one of the two distribution and/or collection spaces into at least two space sections in a gastight and liquid-tight manner, and

the two distribution and/or collection spaces are in flow connection only via the at least one through-flow device.

30. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the feed line and discharge line are provided at one of the two collection and/or distribution spaces, preferably at the distribution and/or collection space which has the separating device.

31. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the feed line and the discharge line extend substantially in the longitudinal direction of the distribution or collection space at which they are arranged.

32. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the separating device divides the distribution or collection space in such a way that the ratio of the length of the section facing the feed line to the length of the section facing the discharge line is between 9:1 and 1:5, ~~preferably between 5:1 and 1:1, and particularly preferably is approximately 2:1.~~

33. (Cancelled)

34. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein at least one space section of a first distribution/collection space is flow-connected to a further space section of a second distribution/collection space by at least one connecting device, the first distribution/collection space and the second distribution/collection space not lying on a straight line.

35. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein the connection device is provided in the region of the separating device and is preferably formed integrally with the separating device.

36. (Currently Amended) An apparatus for heat exchange, in particular the apparatus for heat exchange as claimed in claim 1, ~~characterized in that~~ wherein a plurality of separating/connection devices, which are preferably in single-part form, are provided and effect multiple diversions of the refrigerant.

37. (Currently Amended) An apparatus for heat exchange, ~~in particular the apparatus for heat exchange~~ as claimed in claim 1, ~~characterized in that~~ wherein a distribution space, a collection space, a through-flow device and a feed and discharge line are components which form a module.

38. (Currently Amended) A device for exchanging air, ~~in particular~~ for motor vehicle air-conditioning systems, having air flow paths, air flow control elements, at least one air delivery device and a housing which is suitable for receiving at least one apparatus for heat exchange, ~~in particular~~ as claimed in claim 1, or within which an apparatus for heat exchange of this type is arranged.

39. (Currently Amended) A device for exchanging heat, ~~in particular~~ for motor vehicle air-conditioning systems, having at least one condenser, a compressor, an expansion valve, a collector and at least one apparatus for heat exchange, ~~in particular~~ as claimed in claim 1.

40. (Currently Amended) A process for producing a through-flow device, ~~in particular~~ a flat tube for an apparatus for heat exchange according to claim 1, ~~which includes the following steps~~ the process comprising:

- production of a through-flow device extending substantially in one longitudinal direction;
- twisting of at least one first end-side flow connection section and at least one second end-side flow connection section through a predetermined twisting angle.

41. (Currently Amended) A process for producing a through-flow device as claimed in claim 40, ~~characterized in that~~ wherein

- the through-flow device is curved in the region around a predetermined bending angle with respect to the longitudinal direction of the through-flow device to produce a curved section.

42. (Currently Amended) A process for producing a through-flow device, ~~in particular~~ as claimed in claim 40, ~~characterized in that~~ wherein the bending angle is about ~~amounts to~~ 0°, 30°, 45°, 60°, 90°, 120° or 180° ~~or any desired values in between.~~

43. (Currently Amended) A process for producing a through-flow device, ~~in particular~~ as claimed in claim 40, ~~characterized in that~~ wherein the through-flow device is twisted at least in one region, the twisting angle is about ~~amounting to~~ 0°, 30°, 45°, 60°, 90°, 120° or 180° ~~or any desired values in between.~~

44. (New) An apparatus for heat exchange as claimed in claim 1, wherein the magnitude of the twisting angle is between 45° and 135°.

45. (New) An apparatus for heat exchange as claimed in claim 1, wherein the magnitude of the twisting angle is between 80° and 100°.

46. (New) An apparatus for heat exchange as claimed in claim 1 wherein the magnitude of the angle is between 0° and 45°.

47. (New) An apparatus for heat exchange as claimed in claim 1 wherein the magnitude of the angle is between 0° and 10°.

48. (New) An apparatus for heat exchange as claimed in claim 1, wherein the separating device divides the distribution or collection space in such a way that the ratio of the length of the section facing the feed line to the length of the section facing the discharge line is between 5:1 and 1:1.

49. (New) An apparatus for heat exchange as claimed in claim 1, wherein the separating device divides the distribution or collection space in such a way that the ratio of the length of the section facing the feed line to the length of the section facing the discharge line is approximately 2:1.

50. (New) A process for producing a through-flow device as claimed in claim 40, wherein the bending angle is between 0° and 180°.

51. (New) A process for producing a through-flow device as claimed in claim 40, wherein the through-flow device is twisted at least in one region, the twisting angle is between 0° and 180°.